

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Osamu Komuro, et al.

Application No.: Not Yet Assigned

Group Art Unit: N/A

Filed: Herewith

Examiner: Not Yet Assigned

For: PROCESS CONDITIONS CHANGE
MONITORING SYSTEMS THAT USE
ELECTRON BEAMS, AND RELATED
MONITORING METHODS

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, DC 20231

Dear Sir:

Preliminary to examination, please amend the above-referenced application as follows:

IN THE SPECIFICATION:

Rewrite the paragraphs at page 9, line 12 through line 19, as follows:

Figs. 4(a) through 4(c) are diagrams showing an example of patterns suitable for process conditions change monitoring.

Figs. 5(a) through 5(c) are cross-sectional views showing an example of patterns suitable for process conditions change monitoring.

Figs. 6(a) and 6(b) are graphs showing changes in edge width against focus.

Figs. 7(a) and 7(b) are other graphs showing changes in edge width against focus.

Rewrite the paragraph at page 9, line 22, as follows:

Figs. 9(a) and 9(b) are diagrams showing the acquisition of the creation sequences for the models which establish logical linking between exposure conditions and dimensional characteristic quantities.

Rewrite the paragraphs at page 10, line 4 through line 8, as follows:

Figs. 12(a) and 12(b) are diagrams of the process conditions change monitoring system pertaining to the third preferred mode of embodiment.

Figs. 13(a) and 13(b) are diagrams showing a second example of patterns suitable for process conditions change monitoring.

Rewrite the paragraphs at page 10, line 12 through line 16, as follows:

Figs. 15(a) and 15(b) are diagrams showing a third example of patterns suitable for process conditions change monitoring.

Figs. 16(a) and 16(b) are diagrams showing the measuring method in the third example of patterns suitable for process conditions change monitoring.

Rewrite the paragraphs at page 10, line 22 through line 26, as follows:

Figs. 19(a) and 19(b) are epitomic diagrams representing the relationship between the cross-sectional shape of a resist pattern and the level of a secondary electron signal.

Figs. 20(a) and 20(b) are graphs showing the relationship between exposure level, focus, and line width.

REMARKS

The application has been editorially revised for consistency between the specification and the drawings. Favorable action on the application is solicited.

Dated: February 22, 2002

Respectfully submitted,

By 

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MARKED-UP VERSION SHOWING CHANGES MADE

[Fig. 4 is a diagram] Figs. 4(a) through 4(c) are diagrams showing an example of patterns suitable for process conditions change monitoring.

[Fig. 5 is a] Figs. 5(a) through 5(c) are cross-sectional [view] views showing an example of patterns suitable for process conditions change monitoring.

[Fig. 6 is a graph] Figs. 6(a) and 6(b) are graphs showing changes in edge width against focus.

[Fig. 7 is another graph] Figs. 7(a) and 7(b) are other graphs showing changes in edge width against focus.

[Fig. 9 is a diagram] Figs. 9(a) and 9(b) are diagrams showing the acquisition of the creation sequences for the models which establish logical linking between exposure conditions and dimensional characteristic quantities.

[Fig. 12 is a diagram] Figs. 12(a) and 12(b) are diagrams of the process conditions change monitoring system pertaining to the third preferred mode of embodiment.

[Fig. 13 is a diagram] Figs. 13(a) and 13(b) are diagrams showing a second example of patterns suitable for process conditions change monitoring.

[Fig. 15 is a diagram] Figs. 15(a) and 15(b) are diagrams showing a third example of patterns suitable for process conditions change monitoring.

[Fig. 16 is a diagram] Figs. 16(a) and 16(b) are diagrams showing the measuring method in the third example of patterns suitable for process conditions change monitoring.

[Fig. 19 is an] Figs. 19(a) and 19(b) are epitomic [diagram] diagrams representing the relationship between the cross-sectional shape of a resist pattern and the level of a secondary electron signal.

[Fig. 20 is a graph] Figs. 20(a) and 20(b) are graphs showing the relationship between exposure level, focus, and line width.

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SUBSTITUTE DRAWINGS

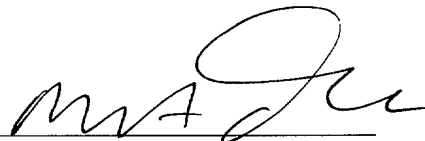
Commissioner for Patents
Washington, DC 20231

Dear Sir:

Preliminary to examination, please substitute the enclosed drawing for original sheet 7. Figs. 17(a) and 17(b) are renumbered as Figs. 7(a) and 7(b). Favorable examination of the application is solicited.

Dated: February 22, 2002

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FIG. 7(a)

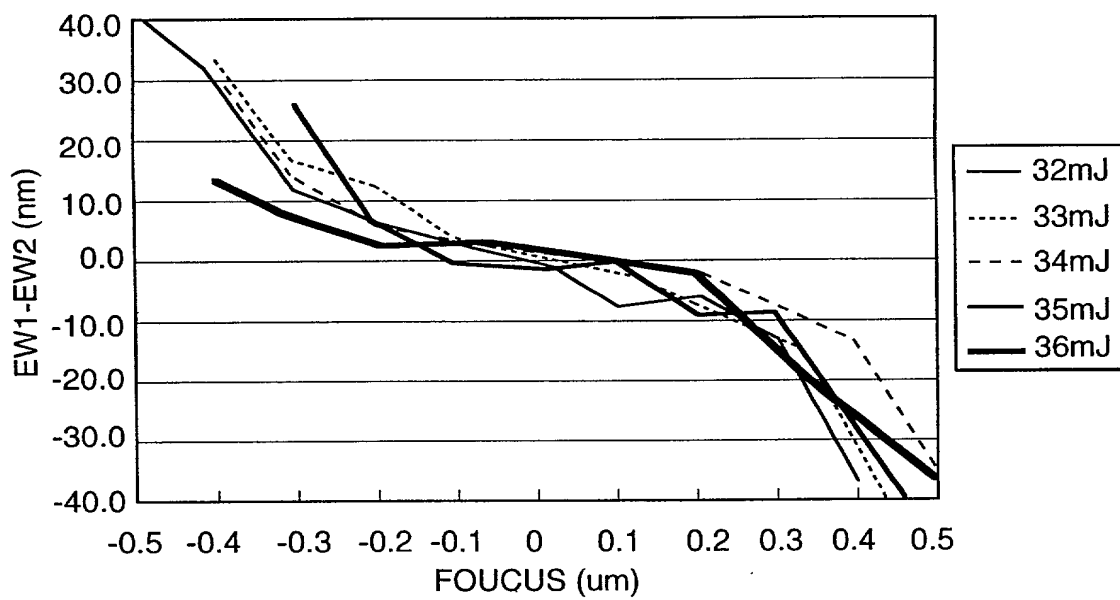


FIG. 7(b)

